January 21, 1986

St. Louis Park Granulated Activated Carbon (GAC) Plant Test Plan - Reilly Tar & Chemical Corporation (RTCC)/Polynuclear Aromatic Hydrocarbons (PAH) Analysis Procedures

James H. Adams, Jr., Chief
Quality Assurance Office

Norman Niedergang, Chief
CERCLA Enforcement Section

ATTENTION: Dan Bicknell

Babu Paruchuri, Chemist, Quality Assurance Office, reviewed two analytical procedures, "ERT Analytical method for low-level PAH and Heterocycles in Water," and "Protocol for the Sampling and Analysis of Polynuclear Aromatic Hydrocarbons and Phenols in Water," submitted by Mr. Dan Bicknell, CES, during the first week of December, 1985, pursuant to RTCC Remedial Action Plan. The above procedures were reviewed for their suitability to analyze ~~three~~ trace levels of PAHs and heterocycles in St. Louis Park water samples. The first procedure was developed by RTCC contractor, Environmental Research and Technology, Incorporated, Concord, Massachusetts, and the second procedure, which has no method validation data, was developed by EPA consultant, Mr. William Woods.

During December 16, 1985, conference call with Mr. Dan Bicknell, EPA, Mr. John Crawn, RTCC and Mr. W. Gary Wilson, ERT, our staff requested Mr. Wilson to provide us PAH method validation data to demonstrate ERT's capabilities to identify and quantify PAHs and the other target compounds at low parts per trillion levels.

Our Office received ERT's method validation data for some of the PAHs (see page 4 of ~~10~~ ERT's standard operating procedure (SOP), dated October, 1985, for the specific parameters) on December 23, 1985 and on January 6, 1986 and partial method validation data for heterocyclic compounds and for some additional PAHs (see page 5 of ~~10~~ ERT's SOP, dated October, 1985, for the list of parameters) on January 13, 1986.

Our Office reviewed ERT's standard operating procedure and method validation data. The following are our comments:

1. ERT analytical procedure for the determination of PAHs listed on page 4 of the SOP, is suitable to determine the target PAH compounds in water samples at low parts per trillion levels.

2. ERT has demonstrated, even though additional data are needed to be collected, that it has the capabilities to determine trace levels of heterocycles and other PAHs listed on page 5 of the SOP, ~~in water samples.~~

3. ERT should collect data on method precision, accuracy and detection limits for the compounds listed on page 5 of the ERT SOP, during the analysis of St. Louis Park samples.

4. ERT should rewrite its SOP, before the completion of St. Louis Park GAC Plant Test Plan project, using the format of the EPA Method 610 for the target compounds (see pages 4 and 5 of ERT's SOP, dated October, 1985 for the list of target compounds) to include information such as chromatographic conditions, retention time data, quality control acceptance criteria, etc.

cc: D. Bicknell, EPA

FILE #:

ACTIVITY #: 6TGB05Z6D4
C40200